Server Considerations for Tournament Organizers

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This document is intended to assist tournament organizers in understanding server capabilities and limitations. Planning events around these capabilities and limitations will reduce problems, administration and manual intervention with respect to rules, server setup, logging, scorekeeping, security, and dispute resolution. I recommend consulting with prospective server operators during the early formative stages of an event, not just on the matter of scheduling but also with respect to what can be done easily, what can be done with difficulty, and what they are unwilling or technically unable to do. It's one thing to plan the Greatest Tournament Ever and another thing to discover that it requires server capabilities that don't exist, a score program that hasn't been written, a team of accountants, referees and lawyers to administer scoring and rules, a complex player side patch, and a serverop who is willing to work every Friday, Saturday and Sunday for half a year.

Number of Players

```
maxPlayers=40
```

A home DSL or cable server is usually capable of supporting 8-12 players which may be sufficient for many island type events but will show severe lag and long nets if it is exceeded. A server on a business class DSL line may be good for 10-20 players, with moderate lag and brief nets showing as it gets overloaded. A full T1 server can support 24-48 players (distributed over a large map with sparse landmarks) but will get laggy and netty if players and landmarks are packed close together. T3 and larger servers can support large numbers of players and landmarks in close proximity, however dialup players may suffer FPS drops, lag and nets as their slow connection chokes on the volume of player and landmark data being pumped out by the server. If in doubt, run a few exhibition matches on your server and try to get a feel for the number of players that can be in simultaneously before the server or the players reach the limits of their connection speed. Also, if you have a small event, run it on a small server and leave the big servers for the big events.

Game Type

```
gameType=(melee, team_melee, get_the_baron)
difficulty=(novice, veteran, ace)
```

Team_Melee is used for most tournament games since it restricts players to either fly Allied or German, and limits them to the appropriate airdromes, and aircraft choices. In addition, team chat will work, targets will box alternately for each side and AA fire will function. Organizers may consider Melee mode in order to have all players show as enemies to one another and allow collisions between all players, however targets will not box nor will AA fire be active. A further complication of Melee mode is that players may

start from any airdrome on either side of the map, using both Hun and Allied aircraft. Note that reducing difficulty to Novice or Veteran level will make targets much easier to destroy.

Display and Ordinance Settings

```
cloudsOn= 0
torqueOn= 1
unlimitedAmmo= 0
rocketsAllowed= 1
limitedFuel= 1
friendlyFire= 1
hideTeamIndicators= 1
```

The above settings may be turned on or off at the preference of the event organizers. While clouds may sound like a great feature, note that turning clouds on generates a heavier graphics load for players and will lower frame rates. There is also a known bug with the clouds that causes player names to “stick” on the screen and display when they should not. This can be a significant distraction for players. The HideTeamIndicators variable hides or displays a coloured triangle on the kneeboard indicating the center of the action – it is almost always hidden.

Game Duration, Time of Day and Darkness

```
gameLengthInSeconds=7200
startTime=10:00
dayRate= 1
nightRate= 1440
```

The serverop can set the game to run for a fixed number of seconds (about 8 hours is the practical maximum) or to run continuously (until all targets are destroyed for example.) For long events, organizers should consider whether periods of darkness or twilight are desired. If darkness is NOT desired then an early morning StartTime plus a 1:1 DayRate is suggested. If a brief period of darkness is desired (i.e. to deter bombing at the start of an event) then setting a fast DayRate and Nightrate is suggested. Setting only a fast NightRate will result in a long period of twilight, followed by a quick period of utter darkness and then another long period of twilight before full day is restored – annoying to most players.

Aircraft Selection Options

```
historicAircraftDates= 0
startDate=1915-5-14

Morane_Bullet=1,1915-8-1,1916-6-1
Fokker_EIII=1,1915-8-1,1916-11-1
```

```
Nieuport_11=1,1916-1-1,1917-1-1
Airco_DH2=1,1916-2-1,1917-4-1
Halberstadt_DII=1,1916-6-1,1917-6-1
Nieuport_17=1,1916-7-1,1918-4-1
Albatros_DII=1,1916-9-1,1917-5-15
Sopwith_Pup=1,1916-11-1,1917-7-1
Sopwith_Triplane=1,1916-12-1,1917-9-30
SPAD_VII=0,1917-1-1,1917-12-1
Albatros_DIII=1,1917-2-1,1918-11-11
Sopwith_Camel=1,1917-3-1,1918-9-1
Albatros_DV=1,1917-7-15,1918-6-1
Fokker_DRI=1,1917-8-21,1918-11-11
Pfalz_DIII=1,1917-8-31,1918-11-11
Nieuport_24=1,1917-10-1,1918-11-11
SPAD_XIII=0,1917-10-1,1918-11-11
Nieuport_28=1,1918-2-1,1918-8-1
Fokker_DVII=1,1918-5-1,1918-11-11
Pfalz_DXII=1,1918-6-30,1918-11-11
Sopwith_Snipe=1,1918-8-1,1918-11-11
SE5a=0,1917-9-1,1918-11-11
```

The serverop can individually disable or enable any aircraft. In addition, aircraft can be made available according to their historic availability by setting the StartDate and HistoricAircraftDates appropriately. Note that use of historic aircraft dates may result in somewhat skewed events with N11 and DH2 vs EIII, N17 vs Halb, Tripe versus DII and Camel vs DIII. Finally, the total number of aircraft types allowed in the game at one time can also be limited, which can force teams to compromise on their choices.

Flight Model Options

```
gameMode=(normal, advanced)
```

The server can be set to use the stock NFM or AFM flight model. Events using modified flight models are usually based on AFM so use the AFM setting and see the security notes below.

Anti Cheat Security

```
SecurityEnabled= 1
password=
```

If Sierra's stock security is enabled, players who enter with non-stock flight models will be ejected. To allow use of modified flight models the serverop will need to disable Sierra's stock security. Note that some technically knowledgeable players may be able to circumvent stock security so the use of secondary security is recommended for major events. For stock NFM events Klay Pijon's RBSMon server side security may be

sufficient. RBSMon logs player data during the game and can detect many types of cheating when the logs are processed after the game. For modified flight model events, Rens RSS SecServer/SecPlayer combination is suggested as it will verify players have the correct modified flight models loaded before they enter the server. Note that not all serverops are able or willing to implement additional RBS or RSS security as they require considerable expertise to set up and administer when used with schedulers and automailers. Running security also requires additional resources on the server which may affect player connections, plus security logs are extremely large, making processing, storage, archiving and e-mailing problematic. Finally, tournament security requires that someone is assigned to check the logs for transgressions after each game, and report on them. Don't assume the serverop will agree to fulfill this role unless you ask them specifically.

Map Selection

```
RandomizeMap=0
UseMap=( Alsace, Flanders, Island, Marne, Verdun)
```

The server may be programmed to randomly choose a map, or to display a specific map. The Flanders, Alsace, Marne and Verdun maps spread players and targets over a wider area which allows support for more players with less bandwidth. The Island map places many players in close proximity with many landmark objects, and as a result places a heavier load on the players' and server's connections. Reducing the number of landmarks on the island map can help reduce loads somewhat.

Balancing Landmarks and Airdromes

```
BalanceLandmarks= 0
MinAerosPerSide=0
```

All maps have unequal numbers and types of targets on each side (even the Island) however the server can be set to independently auto-balance the number of landmarks and number of airdromes on each side. The program (not the serverop) chooses which landmarks and airdromes to display. Landmarks can also be balanced manually by editing the landmark data files, as is done for RBWL.

Landmark Density and Area

```
RegionSize=(small, medium, large, full)
LandmarkDensity=(sparse, medium, dense, full)
```

The server can allow the entire map to be used for landmarks or can limit landmarks to a circular area in the center portion of the map. In addition, landmark density can be reduced so that some landmarks are not displayed. Reducing landmark density on the Island map may reduce lag and improve performance for some players since the Island has many landmarks in close proximity to one another. If a custom

LANDMRKSx.DAT file is used to define targets then the server's region size must be reduced from FULL to LARGE – note that when this is done custom landmarks will only display in the center of the map, and any landmarks placed at the corners (outside the LARGE region) will not display.

Customizing Maps

A custom map can be created by editing the server's LANDMRKSx.DAT file, using a hex editor or a landmark editor utility such as in Chevelle's Server Manager. The simplest custom maps are made by deleting some landmarks to produce a subset of the stock map – i.e. the RBWL Flanders map. This type of map modification does not require a player side patch since it simply turns stock landmarks on or off. A more complex custom map may move landmarks to new locations, in which case each player will have to install the same modified LANDMRKSx.DAT file that is being used by the server. A third type of map modification involves both moving and changing the attributes of landmarks. For example new landmarks such as infantry positions or balloons may be created along the front. FiF and Real Front use landmarks with modified attributes, and players must download both a LANDMRKSx.DAT file plus additional LO02xxxx.DAT files which define the newly created objects.

Considerations for Customizing Maps

Be aware that some modified maps may not be suitable for tournament play. Modified landmarks may be so densely placed on the map or have landmarks composed of so many objects that player frame rates will be adversely affected and the load on the server will be increased. In addition, many modified maps use several overlapping landmarks at the same location – for example a balloon landmark overlaid with a brigade flag landmark overlaid with AA nests set below ground level as in FiF or RFS. If random target selection is specified, the server may pick the invisible brigade or the inaccessible below-ground AA nests as the target instead of the balloon. If random target selection is required for an event then each landmark must be designed to be both visible and killable, as is the case for my own modified RBWL6 format.

Bombing Target Options

```
targetSwapTimeInSeconds= 0
playersPerTarget=1
endOnNoTargets= 0
autoRestartServer= 0
autoRepairTargets= 0
deadTargetsRemoved= 1
germansDefendFirst= -1
targetsChangeTeams= 1
```

If Team_Melee is selected then red-boxed targets will be available for players to bomb. The server can red-box targets on one side at a time, for a preset time period. The

server can repair damaged or destroyed targets each turn, or remove destroyed targets from the target list if desired (typical of most tournaments. For Monkey Island the server will reset to a new game once all targets are destroyed. Important: if damaged targets are not repaired each turn then hard targets will remain hard for the entire game – I recommend damaged targets be repeaired if they are not destroyed. Important: the number of targets displayed during a turn is limited by the minimum number of players in the game – this means that even if 8 targets are expected, only one target is displayed during the first bombing turn since there are no players in the game when the server starts. Bombing events that use red-boxed targets should have clearly defined rules about whether the "reset" target can be bombed. Note that the rb2serveM02.exe version will log all destroyed targets whether red-boxed or not, making it possible for teams to get credit for destroying any target at any time. For example WarForces allows bombing of non-boxed targets at any time in the match.

Random Target Selection

```
manuallyChooseTargets= 0
targetRegionSize=(small, medium, large, full)
```

Events like RBWL use random target selection whereby the server will red-box 8 randomly selected targets at a time (except in the first turn when only 1 target will be selected.) The players and serverop do not know which targets will be selected by the server. It is possible to restrict target selection to those landmarks near the center of the map if desired by using the TargetRegoinSize variable.

Manual Target Selection

```
[Targets]
manualTargetsProgress= 0
manualTargetsAtATime=0
```

The serverop can define a list of up to 8 pre-determined targets per side. The targets can appear all at once or a few at a time, and can appear in the order they were listed or randomly. Monkey Island uses a manual target list of 5 targets per side and players learn which targets will be selected so they can preposition for attacks and defense. Note that only 8 manual targets can be specified per side and once these 8 are destroyed no new targets will be displayed in subsequent turns.

Scheduling

The serverop should be able to schedule games at any time of day or night using Windows Task Scheduler. The serverop may be able to run several games simultaneously, however I strongly recommend hosting one game at a time, particularly if additional RSS or RBS security is being used. I also suggest at least a 30 minute period between the end of one game and the start of the next to allow time for saving, processing and e-mailing the very large security logs. I recommend posting all schedules in both

server time and Zulu time for international pilots, and making a point of identifying daylight savings time changes and major holidays or community events before finalizing the schedule.

Logging, Mailing, Scorekeeping, Manual Scheduling

Check with your serverop to ensure they can archive backup copies of logs, and can mail logs to scorekeepers and organizers. For small servers the serverop may have to retrieve, process and mail logs manually so be aware of the lead time and work load this entails. Also be aware that weekly map changes and aircraft changes require additional work for the serverop every game. Consider that even the simple act of allowing teams to choose who bombs first each game will require the serverop to manually set up sides every game – as many as 80 games in a large event, spanning six months. Check with your serverop in advance to see if they are willing to do this and be prepared to tweak your rule set or change servers if it is not possible.